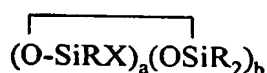
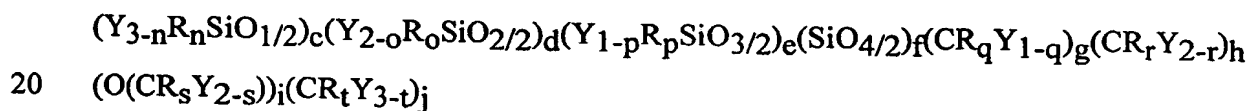


CLAIMS

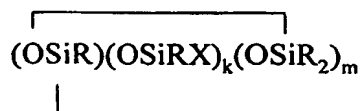
1. A method comprising heating in the presence of a catalyst, a mixture comprising
 (i) a reaction product obtained by mixing in the presence of a platinum group metal-
 5 containing catalyst at least one organohydrogensilicon compound containing at least one
 silicon-bonded hydrogen atom per molecule and at least one compound having at least one
 aliphatic unsaturation; where the organohydrogensilicon compound is described by formula
 (I)



- 10 where each R is independently selected from a hydrogen atom and a monovalent hydrocarbon
 group comprising 1 to 20 carbon atoms which is free from aliphatic unsaturation, a is an
 integer from 1 to 18, b is an integer from 1 to 19, a + b is an integer from 3 to 20, each X is
 an independently selected functional group selected from a halogen atom, an ether group, an
 alkoxy group, an alkoxyether group, an acyl group, or a silyl group, or a -Z-R⁴ group, where
 15 each Z is independently selected from an oxygen and a divalent hydrocarbon group
 comprising 2 to 20 carbon atoms, each R⁴ group is independently selected from -BR_uY_{2-u}, -
 SiR_vY_{3-v}, or a group described by formula (II):



- where B refers to boron, each R is as described above, the sum of c+d+e+f+g+h+i+j is at
 least 2, n is an integer from 0 to 3, o is an integer from 0 to 2, p is an integer from 0 to 1, q is
 an integer from 0 to 1, r is an integer from 0 to 2, s is an integer from 0 to 2, t is an integer
 25 from 0 to 3, u is an integer from 0 to 2, v is an integer from 0 to 3, each Y is an independently
 selected functional group selected from a halogen atom, an ether group, an alkoxy group, an
 alkoxyether group, an acyl group, or a silyl group, or a Z-G group, where Z is as described
 above, each G is a cyclosiloxane described by formula (III):



where R and X are as described above, k is an integer from 0 to 18, m is an integer from 0 to 18, k+m is an integer from 2 to 20, provided in formula (II) that one of the Y groups is replaced by the Z group bonding the R⁴ group to the cyclosiloxane of formula (I), and

5 provided further at least one X group of Formula (I) is a -Z-R⁴ group;

(ii) at least one endblocker described by formula (IV) R'₃SiO(MeR'SiO)_zSiR'₃,

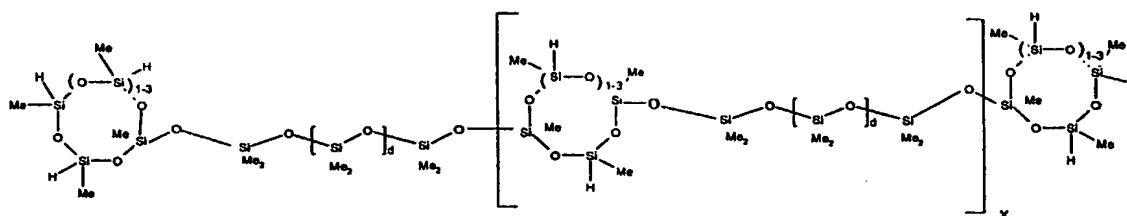
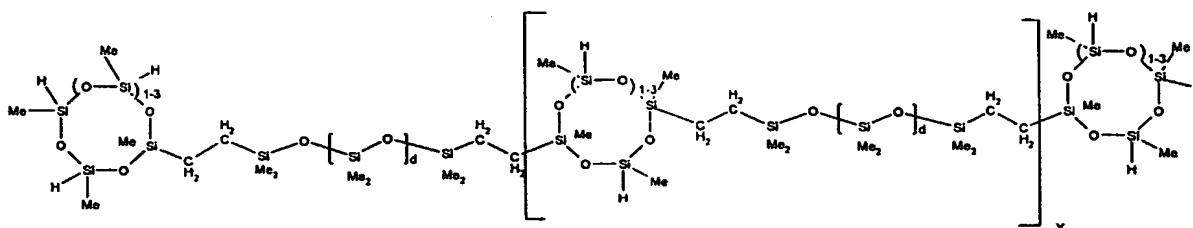
where z ranges from 0 to 150 and each R' is independently chosen from alkyl, aryl, alkenyl, dienyl or functional alkyls where the functionality may be fluoro, fluoroether, polyether, ether, aryl, silyl, siloxy, carboxy, glycosidyl or acrylate, and optionally

10 (iii) at least one organosiloxane chosen from a hydrolyzate described by formula (V) HO(MeR'SiO)_yH and a cyclosiloxane described by formula (VI) (MeR'SiO)_y where y is an integer from 3 to 30, y' is an integer from 1 to 500, and each R' is as described above; so to cause polymerization of components (i), (ii), and optionally (iii) to form branched polymers.

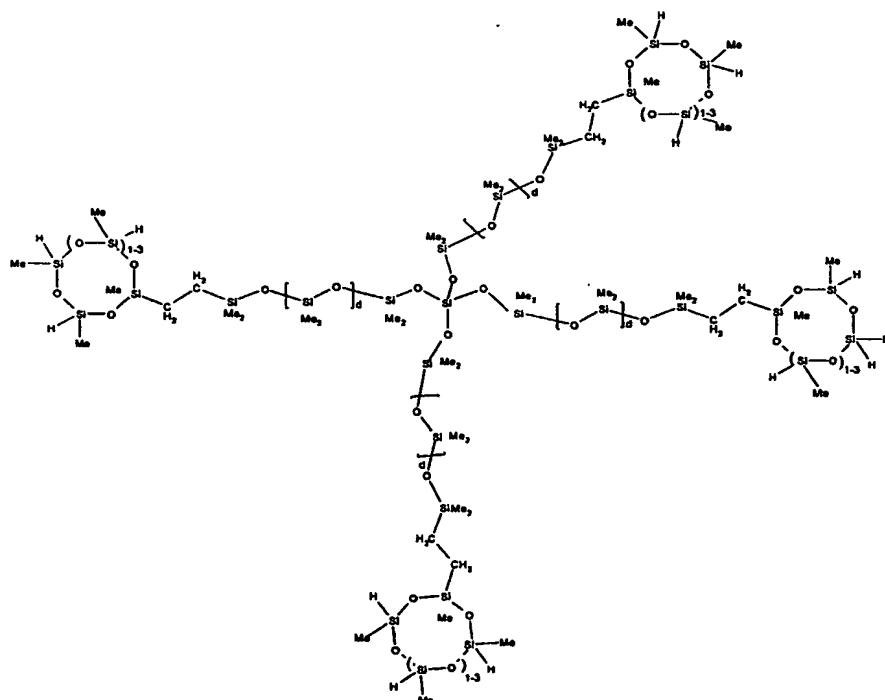
15 2. The method of claim 1 where subscript b is an integer from 2 to 19, subscript c is an integer from 0 to 50, subscript d is an integer from 0 to 5000, subscript e is an integer from 0 to 48, subscript f is an integer from 0 to 24, subscript g is an integer from 0 to 50, subscript h is an integer from 0 to 50, subscript i is an integer from 0 to 50, and subscript j is an integer from 0 to 50.

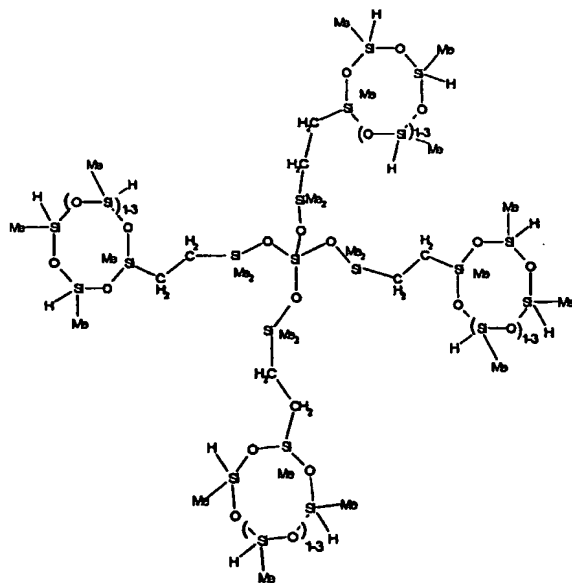
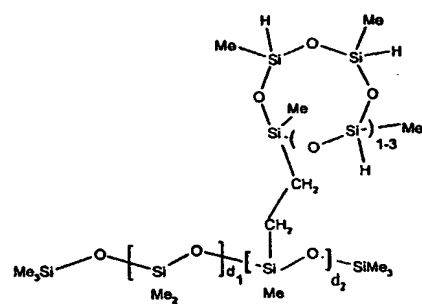
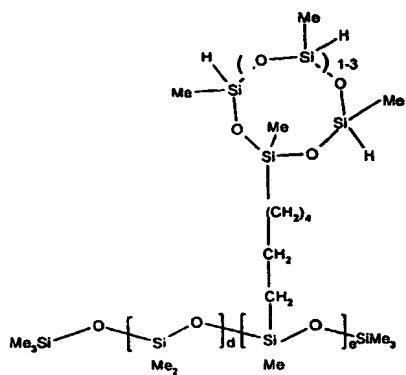
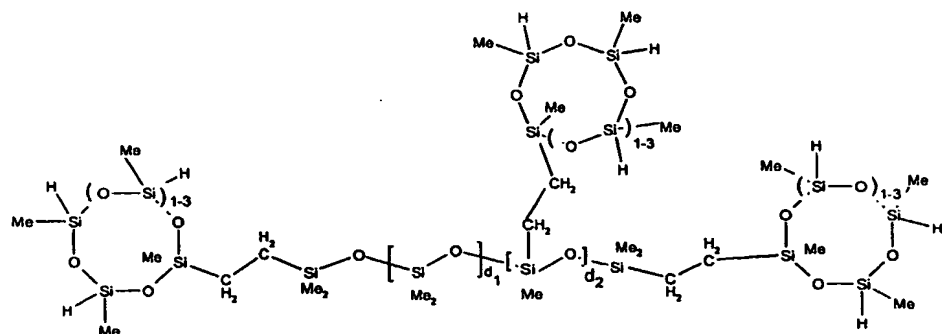
20 3. The method of claim 1 or 2 where each R group is independently selected from hydrogen atoms, alkyl groups comprising 1 to 8 carbon atoms, or aryl groups comprising 6 to 9 carbon atoms, each X is a Z-R⁴ group or is independently selected from chloro, methoxy, isopropoxy, where Z is a divalent hydrocarbon group, and R⁴ is selected from -CH₂CH₂-, -CH₂CH₂CH₂CH₂-, -O(CH₂CH₂O)_{z'}-, where z' = 1-100, O(CH₂CH₂CH₂O)_{z''}-, where z'' = 1-100 and siloxane groups described by -R₂SiO(R₂SiO)_dSiR₂-Z-G, -R₂SiOSiR₃, -R₂SiOSiR₂-Y, and -RSi(OSiR₃)₂, where d is an integer from 1 to 50 and Z, G, and R are as described above.

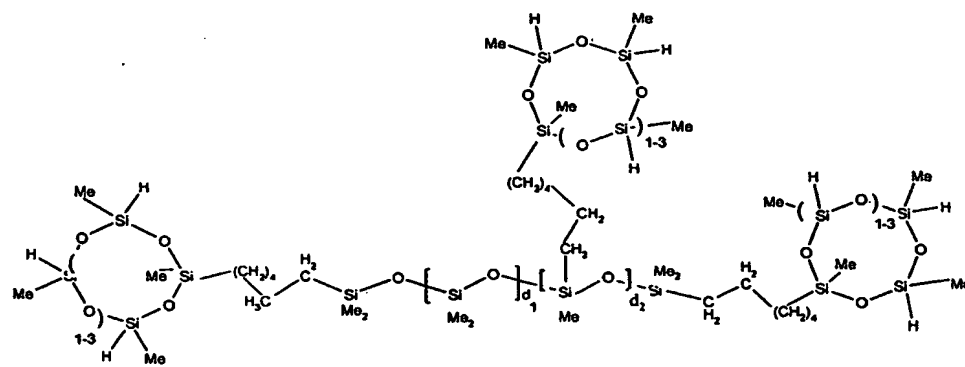
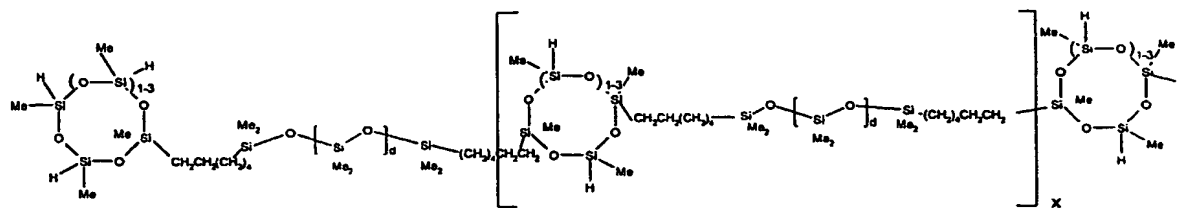
4. The method of any of claims 1 to 3 where the organohydrogensilicon compound is selected from the structures below where Me is methyl, $d^1 + d^2 = d$, and x can range from 1 to 100:

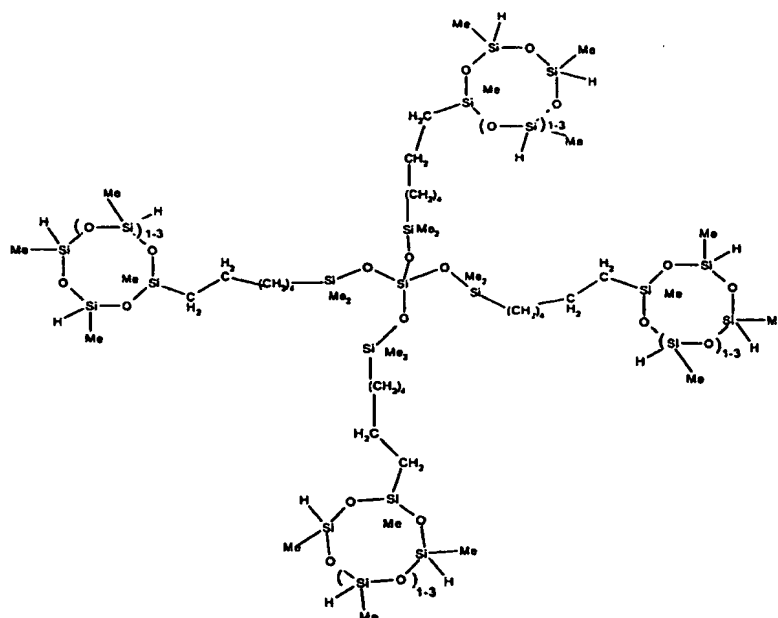


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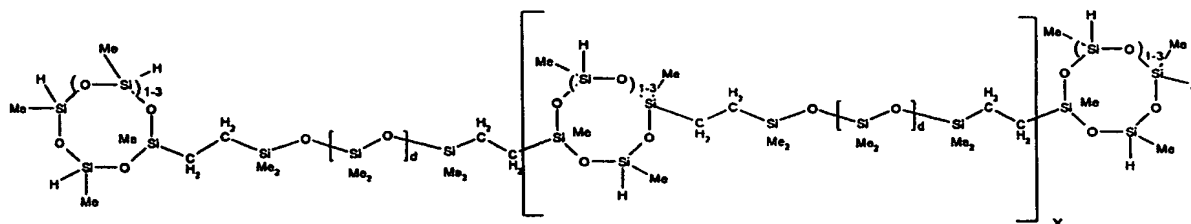






5. The method of any of claims 1 to 4 where the organohydrogensilicon compound is described by the structure below where Me is methyl, d is an average of 8, and x is an integer from 1 to 15.

5



6. The method of any of claims 1 to 5 where R' is independently chosen from alkyl, fluoroalkyl, or alkenyl, component (ii) is added in amounts from 3 to 1000 parts by weight based on 100 parts by weight of component (i), and component (iii) is added in amounts from 0 to 1000 parts by weight.

7. The method of any of claims 1 to 6 where R' is independently chosen from alkyl, fluoroalkyl, or alkenyl, component (ii) is added in amounts from 3 to 1000 parts by weight based on 100 parts by weight of component (i), and component (iii) is added in amounts from 0 to 1000 parts by weight.

8. The method of any of claims 1 to 7 where a sufficient ratio of aliphatic unsaturation to Si-H is used so that all the silicon-bonded hydrogen bonds on the organosilicon compound are reacted.

5

9. A branched polymer made by the method of any of claims 1 to 8.

10. A composition comprising a branched polymer made by the method of any of claims 1 to 8.

10

11. A composition comprising a branched polymer made by the method of claim 8, a Si-H crosslinker, a platinum-group containing catalyst, and an inhibitor.